

REMARKS

In the July 30, 2002 office action, the Examiner objected to the drawings under 37 CFR 1.83(a) for allegedly not showing "the top surface configured as a removable lid", as recited in claim 34. As to the merits, claims 27-29 and 34-36 were rejected under 35 USC 102(b) as being anticipated by WO 90/30585 to "Wheaton". Claims 27-29, 35 and 36 were rejected under 35 USC 103(a) as being unpatentable over USP 3,780,899 to "Roper" in view of USP 3,985,257 to "Shaffer". In addition, claims 27-29 and 34-36 were rejected under 35 USC 103(a) as being unpatentable over DE 9408722.9¹ in view of USP 3,780,899 to "Roper".

Finally, claims 30-33 were deemed allowable, if amended to be written in independent form to include the limitation of their respective base claims and any intervening claims.

Amendment to the Claims

With the present amendment, claim 34 has been canceled to overcome all objections and rejections thereover, including the objection to the drawings.

Claim 30 has been written in independent form and so claims 30-33 clearly are allowable.

New independent claim 37 recites, inter alia, "an indentation located between said top surface and bottom surface, and running along a circumference of the barrel body, and a mold hoop emerging from a radially inner portion of the indentation and extending in a radially outward direction." It is believed that new claim 37 is fully supported by the original specification. New dependent claims 38-44 are similar to claims 28, 29 and 31, 32, 33, 35 and 36, respectively. New dependent claim 45, which recites that "the side surfaces are convex", recites a feature found in previously presented claim 30.

Since no new search is required, it is believed that entry of the present amendment is proper.

Allowance of the present application is requested in view of the comments presented below.

¹ The Examiner mistakenly referred to this reference as "DE 940872".

SUMMARY OF THE INVENTION

The invention of independent claim 27 is directed to a plastic blow-molded barrel 10. The barrel has a barrel body provided with a top surface, a bottom surface, and four substantially identically shaped, convex side surfaces 24a, 24b, 24c, 24d (Page 4 after line13 & Fig. 1, both as amended 11/08/01), each side surface connected to two adjacent side surfaces at rounded corners 26a, 26b, 26c, 26d (Page 4 after line13 & Fig. 1, both as amended 11/08/01), the bottom surface and four side surfaces having a unitary, or “one-piece” construction. The barrel body has a horizontal stiffening element that is formed as an indentation (Fig. 4) located between the top surface and bottom surface, running along a circumference of the barrel body. The convex side surfaces and the rounded corners impart an approximately square-shaped cross-section to the barrel body (See Fig. 1; see also page 4, lines 11-13).

The invention of claim 28 calls for the top, bottom and side surfaces to all have unitary (one-piece) construction.

The invention of claim 29 recites that the stiffening elements can be designed as open U-shaped or V-shaped rib-like forms (20) that run toward the inside and/or to the outside.

The invention of claim 35 recites first and second side bungs (14), each side bung formed on the top surface (See Fig. 1) adjacent to oppositely facing first and second of said four side surfaces 24a, 24b, 24c, & 24d.

The invention of claim 36 recites a foot hoop (18) extending around a circumference of the barrel body, the foot hoop configured to allow rolling of the barrel on a floor.

The invention of claim 37 is directed to a plastic barrel 10 having a top surface, a bottom surface, and four substantially identically shaped, side surfaces 24a, 24b, 24c, 24d (Page 4, after line 13 & Fig. 1, both as amended 11/08/01), each side surface connected to two adjacent side surfaces at corners 26a, 26b, 26c, 26d (Page 4 after line13 & Fig. 1, both as amended 11/08/01). The barrel has an indentation (Fig. 4) that is located between the top surface and bottom surface, the indentation running along a circumference of the barrel body. A mold hoop 22 emerges from a radially inner portion of the indentation and extends in a radially outward direction (See Fig. 4, left half of barrel).

Claim 38 recites that the top surface, side surfaces, and bottom surface have a unitary (one-piece) construction.

The invention of claim 39 has language similar to that in claim 29.

The invention of claim 40 recites that a radially outermost portion of the mold hoop 22 extends to an outer circumference of the barrel body. This is supported on page 5, lines 6-7 of the original specification.

The invention of claim 41 recites that a radially outermost portion of the mold hoop 22 extends beyond an outer circumference of the barrel body, as supported on page 5, lines 8-9 of the original specification.

The invention of claim 42 recites that the mold hoop 22 is provided at a level that is about 43% of a height of the barrel body, as described at page 5, lines 5-6 of the original specification.

The invention of claim 43 recites that the barrel has two side bungs 14 formed in a top surface of the barrel body, as described at page 4, line 10 of the original specification, and as seen in Fig. 1.

The invention of claim 44 recites that the barrel has a foot hoop 18 extending around a circumference of the barrel body, as described at page 4, lines 15-17 and as seen in the left half of Fig. 2.

The invention of claim 45 recites that the side surfaces 24a, 24b, 24c, 24d (Page 4 after line 13 & Fig. 1, both as amended 11/08/01), are convex.

ARGUMENT

A. REFERENCES RELIED UPON BY THE EXAMINER

WO 95/30585 to "Wheaton" describes a plastic keg comprising three molded parts – a central main part, a lower end part, and an upper end part, each of which are injection molded from thermoplastics material, and then welded together at weld lines 17, 18 (See Wheaton, Fig. 2. At page 5, last paragraph, Wheaton specifically disassociates itself from a plastic blow molded construction: "Unlike blow-moulded containers, such a keg will have a working pressure in excess of approximately three bars and will not show any significant increase in volume when pressurized to that level."

USP 3,780,899 to "Roper" discloses a metal container having a rectangular tubular body section 21 sealingly joined to separate top 50 and bottom 70 panels by curled lock

seams 61, 71 (See Fig. 2). The tubular body has a generally square-shaped cross section (see Fig. 10) with upper 30 and lower 31 portions integrally joined together by a center concave smooth and rounded belt 29.

USP 3,985,257 to “Shaffer” discloses a cylindrical plastic drum 10 (having a circular cross-section) that may be blow-molded, and is constructed with integrally formed rolling hoops 12, 13.

DE9408722.9 teaches a blow-molded thermoplastic container having a circular (Fig. 5) or rectangular (Fig. 1c) cross-section.

Table 1 below indicates which of the features in pending claim 27 are present in each of the four references cited by the Examiner.

	Plastic blow- molded	Four substantially identically shaped, convex side surfaces	Indentation	Unitary (one- piece) construction
Wheaton			X	
Roper		X	X	
DE '722.9	X			X
Shaffer	X			X

Table 1. Features Found in References Relied on By the Examiner

B. REJECTION UNDER 35 USC 102

1. Requirements for Establishing a *prima facie* Case of Anticipation

To establish a case of *prima facie* anticipation, the reference must teach each and every element of the claim. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegall Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the . . . claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed.

Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, *i.e.*, identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

2. Rejection of Claims 27-29, 35 and 36 under 35 USC 102

Claims 27-29, 35 and 36 were rejected under 35 USC 102(b) as being anticipated by Wheaton. In formulating the rejection of the claims, at page 2 of the July 30, 2002 office action, the Examiner reasoned as follows:

Regarding claim 27, the limitation of blow-molded does not add any structure that is not found in the reference. Once the welding is accomplished the construction is unitary. The unitary construction and blow molding do not preclude the weld lines. The container of the instant invention is placed in a separable mold that will impart molding lines in the final product. Moreover, it has been well settled that the patentability of a product claim is not determined by the process by which it is made. See Fig. 4, where it is shown that the corners are rounded and the cross-section is square shaped. The container side walls are convex on the interior surface. See Fig. 3 which shows the stiffening element which is the groove 20 and is “U” shaped. Regarding claim 34, the lid is removable at the weld line 19 by cutting. Regarding claim 36, item 16 on either end is the foot hoop. (Emphasis added).

For reasons stated below, the Examiner’s reasoning, and the rejection under 35 USC 102, are traversed.

3. Wheaton Does not Teach Each and Every Element of Independent Claim 27

Wheaton does not teach a “plastic blow molded barrel” or a structure having “unitary construction” or “convex side surfaces”. For these reasons, it is submitted that pending independent claim 27, and dependent claims 28-29 and 35-36 are not anticipated by Wheaton.

a. Wheaton does not disclose a “Plastic Blow-Molded Barrel”

Claims 27-33 and 35-36² are all directed to a “plastic blow molded barrel”. In formulating the rejection of claims 27-29, 35 and 36 as being anticipated by Wheaton (WO 95/30585), the Examiner stated on page 2 of the July 30, 2002 office action, that “the limitation

² In contrast, new claims 37-45 do not recite that the plastic barrel is “blow molded”.

of blow-molded does not add any structure that is not found in the reference.” The Examiner’s statement is traversed.

The expression “plastic blow molded” is not a statement of ‘purpose or intended use’ of the article in question. Indeed, “plastic blow molded” limits the structure of the claim, and so must be treated as a claim limitation. See MPEP 2111.02 (August 2001). It is further submitted that the expression “plastic blow molded” refers to a category of objects, and one skilled in the art would consider it so. Appendix C contains a list of US patents whose titles include the term “plastic blow molded”, evidencing that those skilled in the art employ this expression to refer to a category of objects. Further evidence of this can be found in Appendix D, which includes pages from www.fortrecoveryindustries.com/plstblw.htm which refers to “plastic blow molded containers” (especially bottles), www.hitecmetalgroup.com/plastic.htm which refers to “plastic blow molded products”, <http://ptdc01.bd.ps.edu/training/bm.html> which refers to “plastic blow-molded part”, and www.caseexpress.com/casestyles.htm which refers to “plastic blow molded cases”.

In view of the above examples, it is evident that the expression “plastic blow molded” is used by those skilled in the art to refer to a class of objects, and the device disclosed in Wheaton clearly does not belong to this class. More significantly, however, Wheaton specifically teaches away from a blow-molded container. “Unlike blow-moulded containers, such a keg will have a working pressure in excess of approximately three bars . . .” (See Wheaton, page 5, last paragraph). In view of all of the foregoing, it is submitted that Wheaton does not teach a “plastic blow molded barrel”, as recited in pending claim 27.

b. Wheaton does not disclose “Unitary Construction”

As the term is conventionally used, “unitary construction” refers to “one-piece” construction and so does not include “welding” (such as disclosed in Wheaton). Appendix E presents the first page of U.S. patent no. 5,012,614, which shows that the term “blow-molded unitary” (present in the title) is clearly associated with “one-piece construction made by blow-molding” in the abstract. U.S. patent nos. 6,331,054 (“unitary one-piece body”) and 4,662,515 (“unitary one-piece blow-molded containers), also evidence that those skilled in the art associate “unitary” with “one-piece”.

This association is not limited to US patents, but also extends to conventional usage of the term “unitary” in industry. Appendix F, for example, presents web pages from

www.kangaco.com/storm.html, which states “Unique unitary construction (made from one piece of material) limits number of seams” and web pages from www.nokona.com/body_protect.html, which states “Assuring maximum protection against hard blows the pads are constructed in one-piece, of molded, unitary construction”.

Finally, it is noted that the American Heritage College Dictionary, 3rd Ed. (See Appendix G), defines unitary as “[o]f or relating to a unit” or “[h]aving the nature of a unit”, while “unit” is defined as “[a]n individual, a group, a structure, or other entity regarded as an elementary constituent of a whole”. Thus, even employing a dictionary definition, the term ‘unitary construction’ implies “a construction having the nature of a elementary constituent of a whole” – i.e., a single-piece forming the whole, or what is known in the art as an “one-piece” construction.

Wheaton clearly does not teach a unitary construction. For example, on page 2, Figure 2, shows a main part 11, a closed lower end part 12, and an upper end part 14, which are injection moldings of a thermoplastic material that are joined together by welding at weld lines 17 and 18. Thus, Wheaton teaches three parts that are manufactured separately and then welded together. Consequently, Wheaton’s device is not “a construction having the nature of a elementary constituent of a whole”.

In view of all the foregoing, it is submitted that Wheaton does not disclose the ‘unitary construction’ feature of pending claim 27.

c. Wheaton Does Not Disclose “Convex Side Surfaces”

The Examiner argues that Wheaton’s “container side walls are convex on the interior surface”. It is unclear which figure (or, for that matter, which specific feature) in Wheaton shows this. It is further submitted that in the context of pending claim 27, ‘side surfaces’ clearly refers to the exterior side surfaces, and Wheaton’s Fig. 4 clearly does not show convex side surfaces, even those that are “convex on the interior surface” as asserted by the Examiner.

C. REJECTIONS UNDER 35 USC 103(a)

1. Requirements for Establishing a *prima facie* case of Obviousness

Three basic criteria must be met to establish a case of *prima facie* obviousness.

First, there must have been at the time of the invention a motivation to combine the references cited. *In re Jones*, 958 F.2d 347 (Fed. Cir. 1992); *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988) (holding that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art).

Second, the alleged prior art must teach or suggest all of the limitations of the claims alleged to be obvious. *In re Royka*, 490 F.2d 981 (CCPA 1974) (holding that to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art); *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991) (holding that the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicant's disclosure).

Furthermore, hindsight cannot be used to reject a claim as obvious. *In re Sernaker*, 702 F.2d 989, 994 (Fed. Cir. 1983); *In re Rinehart*, 531 F.2d 1048 (CCPA 1976); *In re Imperato*, 486 F.2d 585 (CCPA 1973); *In re Adams*, 356 F.2d 998 (CCPA 1966). Consequently, it is insufficient to select from the prior art the separate components of the inventor's combination, using the blueprint supplied by the inventor. *C.R. Bard Inc. v. M3 Systems, Inc.*, 157 F.3d 1340, 1352 (Fed. Cir. 1998) citing *Fromson v. Advance Offset Plate, Inc.*, 755 F.2d 1549, 1556 (Fed. Cir. 1985) (holding the prior art must suggest to one of ordinary skill in the art the desirability of the claimed combination)."

The Federal Circuit has suggested that "the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or modification to combine prior art references." *Id.* This is because "[c]ombining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability — the essence of hindsight." *Id.* (citing *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138 (Fed. Cir. 1985)).

As discussed below, the 35 USC 103 rejections set forth by the Examiner, fail to meet the requisite showing of motivation to combine.

2. Rejection of Claims 27-29 & 35, 36

On page 3 of July 30, 2002 Final Office Action, the Examiner rejected claims 27 - 29 and 35-36 as being unpatentable over Roper in view of Shaffer, stating:

Regarding claim 27, Roper does not teach that the container is made of plastic or blow-molded. Shaffer *et al.* teaches a drum that is made of plastic and blow-molded. It would have been obvious to employ the plastic and blow molding of Shaffer *et al.* in the container of Roper to provide a container that will not corrode and to provide a method of producing the container rapidly. (Emphasis added).

For reasons stated below, the Examiner's reasoning, and the rejection under 35 USC 103 that the claims are obvious over Roper in view of Shaffer, are traversed.

On page 4 of July 30, 2002 Final Office Action, the Examiner rejected claims 27 - 29 and 35-36 as being unpatentable over DE '722.9 in view of Roper, stating:

DE '872³ teaches a round or rectangular shaped container but does not teach the substantially identically shaped four sides giving an approximately square shape. Roper '899 teaches a drum with four sides with substantially the same shape giving approximately square shape. It would have been obvious to employ the shape of Roper '899 in the container of DE '722 to provide an alternative shape for the container. DE '899⁴ does not teach the horizontal stiffening element. Roper '899 as seen in Fig. 1, teaches an indentation. It would have been obvious to employ the indentation of Roper '899 in the container of DE '872 to stiffen the sidewall. See Fig. 60⁵ is the stiffening element.

For reasons stated below, the Examiner's reasoning, and the rejection under 35 USC 103 that the claims are obvious over DE '722.9 in view of Roper, are traversed.

3. There is no motivation to modify Roper in view of Shaffer

³ The Examiner has cited reference "DE '872" throughout the Office Action; the correct cited reference is DE 9408722.9 ("DE '722.9").

⁴ The Examiner mistakenly cited "DE '899"; the correct cited reference is "DE '722.9".

⁵ It is completely unclear what the Examiner is referring to by this. There is no Fig. 60 in either reference. Reference numeral 60 in Roper is a V-shaped recess that extends around the top panel 50 (Col. 4, lines 8-10) and is a 'transport ring' in DE '722.9 (see Page 10 & Figs. 3a & 3b).

It is submitted that there is no motivation to modify the metal barrel of Roper having a rectangular tubular body section 21 sealingly joined to separate top 50 and bottom 70 panels by curled lock seams 61, 71, so as to make it a plastic blow-molded barrel, of the sort disclosed in Shaffer.

To modify Roper to arrive at the invention of claim 27, one would have to, at a minimum, do the following: (1) completely replace metal with plastic throughout the barrel construction; and (2) completely replace Roper's separate bottom panel connected by 'lock seams' to the tubular barrel body with a plastic blow molded construction having a bottom and side walls with unitary one-piece construction.⁶ Nothing would motivate one skilled in the art to do so, and the Examiner's stated motivation "to provide a container that will not corrode and to provide a method of producing the container rapidly", simply does not warrant such wholesale changes.

The entire point of Roper is the 'concave belt' and the 'lock seams' (See Roper's title). The entire point of Shaffer is a blow molded drum constructed with integrally formed hoops (See Shaffer's claim 1, line 4; claim 5, line 3). Nothing in Roper even remotely mentions the desirability of plastic blow molded construction, "rolling hoops" or a need to "provide a container that will not corrode." Similarly, nothing in Shaffer refers to enhancing structural rigidity (with an indentation 29 of the sort disclosed by Roper) or a 'lock seam' to secure a top and a bottom to a tubular body. Indeed, Roper's container, with its metal construction, separate metal top and bottom panels and lock seams, is the *antithesis* of Shaffer's plastic blow molded drum.

Furthermore, Roper's claimed "solid first lock seam" teaches away from a plastic construction. Roper uses metal in its top panel, bottom panel and tubular body section so that their flanges can be "curled together completely around said container into a solid . . . lock seam" (See Roper, Claim 1, lines 18-19). Roper's construction having flanges "curled together" would not work with plastic, because curling hard plastic flanges would almost certainly break the plastic. And even if the plastic did not break, it still would not hold into a "solid first lock seam", thereby defeating the entire purpose of Roper's claimed invention. In view of the foregoing, it is submitted that one skilled in the art, upon seeing Roper's invention, would not be inclined to look to a reference teaching the use of plastic (such as Shaffer).

⁶ It is further noted that one skilled in the art would not use plastic to form the lock seams.

At page 5, ¶ 8 of the July 5, 2002 Office Action, the Examiner asserts that “It is notorious in the art to substitute metal for plastic as well as plastic for metal.” In view of the foregoing discussion concerning Roper’s claimed “solid first lock seam”, it is submitted that this statement clearly does not apply to the Examiner’s suggested combination which calls for replacing the metal in Roper, with the blow molded plastic of Shaffer.

Also, to the extent that Shaffer only discloses a cylindrical drum, and is completely silent about drums of any other shape, it is submitted that Shaffer teaches away from making a plastic blow-molded container that has an “approximately square-shaped cross-section.” And while, at column 1, lines 59-61, Shaffer states: “[T]he design of the drum is such that . . . different capacity drums may readily be blow-molded” (emphasis added), Shaffer is completely silent as to differently *shaped* drums being blow-molded.

For all the reasons stated above, it is submitted that there is no motivation to modify Roper with Shaffer, and so claims 27-29 and 35-36 are non-obvious over this combination of references.

4. There is no motivation to modify DE ‘722.9 in view of Roper

The Examiner concedes that DE ‘722.9 does not teach either “the substantially identically shaped four sides giving an approximately square shape” or “the horizontal stiffening element.” For these, the Examiner turns to Roper giving, as the motivation to combine, “to provide an alternative shape for the container.” The Examiner’s stated motivation lacks any basis in fact or law.

As part of the burden under 35 USC § 103 to establish a *prima facie* case of obviousness, the Examiner must show some objective teaching in the prior art, or that knowledge generally available to one of ordinary skill in the art, would lead that individual to combine the relevant teachings of the references. *In re Lulu*, 747 F.2d 703, 705 (Fed. Cir. 1984) (“in determining whether a case of *prima facie* obviousness exists, it is necessary to ascertain whether the prior art teachings would appear to be sufficient to one of ordinary skill in the art to suggest making the claimed substitution or other modification”) (*Citing In re Taborsky*, 502 F.2d 775, 780 (CCPA 1974)). Moreover, “when determining the patentability of a claimed invention, which combines two known elements, the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination.” *In re Beattie*, 974 F.2d 1309, 1311-12 (Fed. Cir. 1992) (quoting *Lindemann Maschinenfabrik GmbH*

v. *American Hoist & Derrick Co.*, 730 F.2d 1452, 1462 (Fed. Cir. 1984)). The mere fact that the combination of references could be modified is not legally sufficient. See *In re Gordon*, 733 F.2d 900 (Fed. Cir. 1984); See also *In re Lawkowski*, 871 F.2d 115 (Fed. Cir. 1989) ("holding that the mere fact that the prior art could be modified would not have made the modification obvious unless the prior art suggested the desirability of the modification"). Furthermore, in *In re Lee*, 277 F.3d 1338, 1343, 61 U.S.P.Q.2d 1430, 1433 (Fed. Cir. 2002), the Federal Circuit stated that the factual question of motivation to combine for purposes of the obviousness inquiry is material to patentability, and can neither be resolved on subjective belief and unknown authority, nor stand if supported only by conclusory statements.

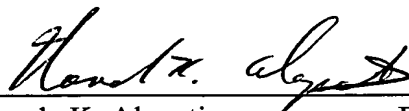
In the present case, the Examiner has completely failed to show any nexus between either DE '722.9 or Roper and the general desire to "to provide an alternative shape for the container". Instead, the Examiner relies solely on the vague and conclusory motivation "to provide an alternate shape." This does not meet the Examiner's burden, and so the rejection of claims 27-29 and 35-36 as being unpatentable over DE'722.9 in view of Roper, should be withdrawn.

For the reasons stated above, it is respectfully submitted that the rejection of claims 27 - 29 and 35 - 36 as being anticipated under 35 U.S.C. § 102 by Wheaton is in error and should be withdrawn. It is further respectfully submitted that the rejection of claims 27 - 29 and 35 - 36 as being unpatentable either over Roper in view of Shaffer, or over DE '722.9 in view of Roper, is also in error and should be withdrawn.

No fee is believed to be due for this submission. Should a fee be required, the Commissioner is authorized to charge any such fee to Pennie & Edmonds LLP's Deposit Account No. 16-1150.

Respectfully submitted,

Date: December 17, 2002



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Enclosure